

CLAIMS

1. A method of preparing an aqueous colored pigment dispersion comprising the step of combining, in any order, a) a colored pigment, b) an azo coupler, c) an aromatic amine, d) a diazotizing agent, and e) an aqueous medium, wherein the aromatic amine comprises at least one ionic group, at least one ionizable group, or a mixture of at least one ionic group and at least one ionizable group.
2. The method of claim 1, wherein the colored pigment and azo coupler are combined to form a pretreated colored pigment.
3. The method of claim 2, wherein the pretreated colored pigment is in a liquid form.
4. The method of claim 2, wherein the pretreated colored pigment is in a dry form.
5. The method of claim 2, wherein the pretreated colored pigment is formed in the aqueous medium.
6. The method of claim 1, wherein the aromatic amine and diazotizing agent are combined to form a diazonium reagent.
7. The method of claim 6, wherein the diazonium reagent is formed in the aqueous medium.
8. The method of claim 1, wherein the colored pigment comprises a blue pigment, a black pigment, a brown pigment, a cyan pigment, a green pigment, a white pigment, a violet pigment, a magenta pigment, a red pigment, an orange pigment, a yellow pigment, or mixtures thereof.

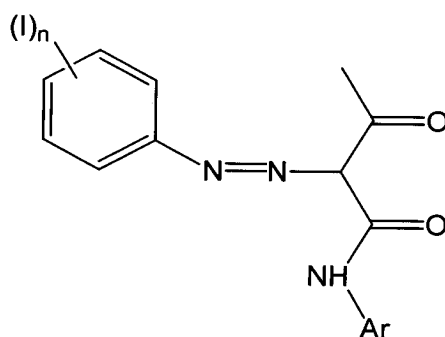
9. The method of claim 1, wherein the azo coupler comprises an acetoacetamide group.
10. The method of claim 9, wherein the colored pigment is a disazo or monoazo pigment.
11. The method of claim 1, wherein the azo coupler comprises an hydroxypyridone group.
12. The method of claim 11, wherein the colored pigment is a disazo or monoazo pigment.
13. The method of claim 1, wherein the azo coupler comprises a 2-hydroxynaphthalene group.
14. The method of claim 13, wherein the colored pigment is a naphthol-AS pigment.
15. The method of claim 1, wherein the azo coupler comprises an (acetoacetamido)benzimidazolone group.
16. The method of claim 1, wherein the azo coupler comprises an pyrazolone group.
17. The method of claim 1, wherein the colored pigment comprises the azo coupler.
18. The method of claim 1, wherein the aromatic amine comprises at least one $-\text{COO}^-$, $-\text{SO}_3^-$, $-\text{OSO}_3^-$, $-\text{HPO}_3^-$, $-\text{OPO}_3^{-2}$, $-\text{PO}_3^{-2}$, amine, or ammonium group.

19. The method of claim 1, wherein the aromatic amine comprises at least one sulfonic acid group, carboxylic acid group, or salt thereof.
20. The method of claim 1, wherein the diazotizing agent is a nitrite.
21. The method of claim 1, wherein the aqueous medium is water.
22. The method of claim 1, further comprising the step of adding an acid.
23. The method of claim 1, wherein the azo coupler, aromatic amine, and diazotizing agent react in the aqueous medium to form a dispersant having the formula:
$$D-N=N-AC,$$
wherein AC is an azo coupling component and D is a diazo component comprising at least one ionic group, at least one ionizable group, or a mixture of at least one ionic group or ionizable group.
24. The method of claim 1, wherein the aqueous colored pigment dispersion is an inkjet ink composition.
25. An inkjet ink composition comprising a) a liquid vehicle, b) a colored pigment, and c) a dispersant having the formula:
$$D-N=N-AC,$$
wherein AC is an azo coupling component and D is a diazo component comprising at least one ionic group, at least one ionizable group, or a mixture of at least one ionic group or ionizable group.
26. The inkjet ink composition of claim 25, wherein D comprises at least one sulfonic acid group, carboxylic acid group, or salt thereof.

27. The inkjet ink composition of claim 25, wherein AC comprises an acetoacetamide group.

28. The inkjet ink composition of claim 27, wherein the colored pigment is a disazo or monoazo pigment.

29. The inkjet ink composition of claim 25, wherein the dispersant has the formula:

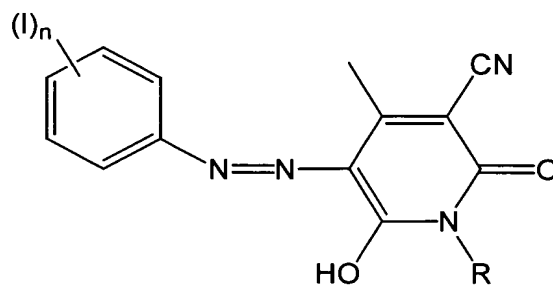


wherein I is an ionic group or an ionizable group; n is an integer between 1 and 5; and Ar is a substituted or unsubstituted aromatic group.

30. The inkjet ink composition of claim 25 wherein AC comprises an hydroxypyridone group.

31. The inkjet ink composition of claim 30, wherein the colored pigment is a disazo or monoazo pigment.

32. The inkjet ink composition of claim 25, wherein the dispersant has the formula:

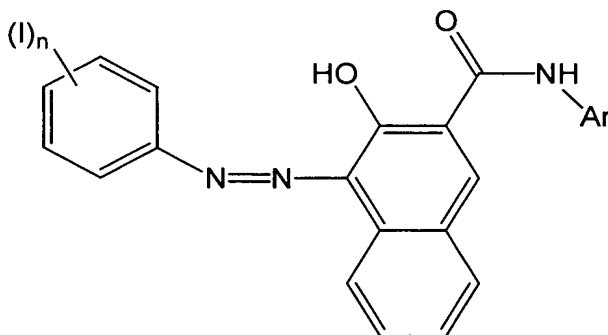


wherein I is an ionic group or an ionizable group; n is an integer between 1 and 5; and R is a substituted or unsubstituted, saturated or unsaturated alkyl group; a substituted or unsubstituted aromatic group; or a substituted or unsubstituted heteroaromatic group.

33. The inkjet ink composition of claim 25, wherein AC comprises a 2-hydroxynaphthalene group.

34. The inkjet ink composition of claim 33, wherein the colored pigment is a naphthol-AS pigment.

35. The inkjet ink composition of claim 25, wherein the dispersant has the formula:



wherein I is an ionic group or an ionizable group; n is an integer between 1 and 5; and Ar is a substituted or unsubstituted aromatic group.

36. The inkjet ink composition of claim 25, wherein the inkjet ink composition is an aqueous inkjet ink composition.